THE CAUSE OF BUSINESS STAGNATION

AN INQUIRY INTO THE INTER-RELATION OF THE INDUSTRIAL AND THE FINANCIAL WORLD

By Hugo Bilgram,
Philadelphia, Pa.

Not long before his death the late Senator Mark Hanna expressed his belief that the then prevailing prosperity had come to stay. Unfortunately, events have since shown that his words were the reflection of a desire rather than a prophetic inspiration. In the light of our experience the periodical recurrence of business depressions seems to be a persistent characteristic of the modern industrial era. The present time may be opportune to propound the question whether these recurring depressions are really an inevitable concomitant of industrial progress. If their cause can be discovered, it may be possible to suggest a remedy.

This inquiry must take into account all the symptoms accompanying the alternating periods of prosperity and depression, for no attempted explanation can be accepted as correct unless it can account for them.

One of the most prominent features of dull times is the apparent deficiency of effective demand for both labor and its products. A demand is "effective" if coupled with the intention and ability to give an equivalent in exchange for the thing demanded.

Considering that money is merely a medium for exchanging commodity for commodity, or commodity for service, or service for service, the offer of any commodity or service implies an effective demand for some other commodity or service. Each application for employment, each offer, in the market, of service or merchandise, is accordingly the measure of an effective demand for some other commodity or service in exchange. In other words, each actual supply constitutes an effective demand, and it manifestly follows

that an exact equality constantly exists between total actual supply and total effective demand. While it is possible that in any one branch of production or in any one profession there may be an excess of supply over demand, this very condition is proof of the existence of an excess of the demand over the supply of the products of some other trade or the services of some other profession.

Apparently, this theory is contradicted by the facts developed during periods of stagnation. In every trade the supply exceeds the demand, in every branch of production goods accumulate for the lack of demand, the volume of traffic shrinks far below the capacity of the railroads; in short, everywhere, and especially in the labor market, the actual supply exceeds the effective demand. Yet, according to the above law this excess of supply must somewhere be balanced by an equal excess of demand or deficiency of supply. Is our theory defective? Or is the equalization effected in some way not apparent on the surface and in quarters where the lack of supply has hitherto not been clearly recognized?

A close study of our system of production and exchange may furnish a clue. The modern industrial era is distinguished by a most minute specialization of production, entailing a correspondingly complicated system of exchanges. The practical impossibility of effecting these exchanges by any system of barter is obviated by the use of a medium of exchange, which has therefore become an indispensable instrument of commerce. The historic evolution of this medium of exchange from cattle and other things of value to silver and gold, then to these metals in coined form and ultimately to credit instruments is too well known to need disquisition here.

In the present system practically all merchandise and nearly all services are primarily offered for a money consideration. Barter and payments in kind have almost completely disappeared. But the introduction of a medium of exchange cannot affect the law according to which the sum total of supply must equal the sum total of effective demand. We have still good reason for concluding that there is an insufficient supply somewhere.

Inasmuch as all merchandise and services offered in the market represent primarily an effective demand for the medium of exchange, an excessive supply of the offerings of the market constitutes an excessive demand for money and its substitutes. The observed facts, then, point to "money" as that of which the supply is deficient and

short of the demand, the deficiency being equal to the over-supply of merchandise and services.

This over-supply, ordinarily regarded as "over-production," is accordingly capable of only one logical interpretation. Currency being an institution whose legitimate object is to facilitate the exchange of merchandise and services, for which purpose it is further supplemented by the modern check system, the above reasoning points to the conclusion that even when so supplemented our currency is inadequate to perform all of the work for which it was devised and instituted. Stagnation in business, then, finds a ready explanation in the deficiency of our mechanism of exchange.

This contention is by no means a new one. It has already been discussed by John Stuart Mill,[1] but while admitting an under-supply of money, he failed to pursue this line of investigation to its logical conclusion. Also other writers have referred to it, many of whom consider it untenable, for reasons, however, which are open to dispute.

The substitution of credit instruments for actual currency in many of our business transactions is often claimed to cover every possible shortage of currency. But in the present banking system the volume of that credit which can be used in lieu of cash, namely, bank accounts, never can exceed more than a limited number of times that portion of our currency which is held in banks as reserve, and is therefore strictly limited by the limited volume of currency. While the check system, in performing the function of money, greatly adds to our exchange facilities, yet its limitation prevents it from supplying the entire demand, which is constantly increasing; for the volume of exchanges tends to increase with every progress in the specialization of industries, and this increasing demand has simply outrun the increased supply.

However, the most plausible objection to the conclusion that we are suffering from a dearth of money is based on the fact that business depressions are not permanent. but alternate with periods of prosperity, while the volume of currency in existence during both periods of the cycle is practically the same. Indeed, during times of depression banks are, as a rule, amply supplied with funds which they offer at a low rate of interest. This very fact is generally considered to indicate the existence of a surfeit of money. But this

[1] Princ. Pol. Econ., Mill, Book III, Chapter 14.

conclusion can be shown to be erroneous, since it is possible to account for business fluctuations even on the assumption that the volume of currency were a strictly constant quantity.

It should be remembered that at times a large portion of the existing currency is virtually withdrawn from circulation, not only by hoarding, but also by holding funds for the purpose of lending. Only that portion of the total volume of currency and bank accounts is in actual circulation which is in control of those who intend employing it in commercial pursuits, such as buying things or paying wages. That portion which is held for lending is temporarily withdrawn from circulation. Not until the lender finds an acceptable borrower will it be restored to its natural function, unless, indeed, the owner changes his intention of lending it and employs it in the market directly.

A distinction should therefore be made between funds in circulation and funds held for lending. The latter are in a passive state as regards demand for goods or services and cannot be classified as money in circulation. The total volume of currency and bank accounts should accordingly be divided into two parts, the volume of passive and that of active funds, the one embracing that portion which is held for lending, the other that which is held for buying things and for paying wages. It is true that this distinction is rather indefinite, depending upon the subjective factor: "Intention of the Owner," which in many cases may not even have been formulated, but as in the present investigation only actual transactions need be taken into account, the subjective factor, "Intention," can virtually be transferred to the province of the objective by a proper classification of those transactions. Let us assume that the intention is determined by the nature of the transaction which immediately precedes, leaving departures from this rule to be considered separately.

For this purpose certain qualifications and premises must be agreed upon. In the argument here adduced the term "Debt" will be strictly confined to those relations between creditors and debtors resulting from the lending of funds, excluding those which are contracted in the regular course of business and which merely constitute a delay of payment for merchandise and services. Investments in stocks of a stock company, for instance, cannot be regarded as money loans, while investments in bonds distinctly belong to this

category. Moreover, the principal of a loan should be strictly distinguished from the interest, a discounted note being, of course, a loan of the discounted sum only, and the discount itself simply interest. For the purpose of our discussion, as regards "Intention," it will be reasonable to assume that not only the principal of collected "Debts" but also the incomes from such investments will again be applied to similar investments and they will accordingly be assigned to the volume of passive funds, while incomes from industrial investments are similarly to be assumed as intended for industrial investment and will therefore be assigned to the volume of active funds. To be sure, departures from this rule will frequently occur, as already indicated, and these will be considered in their proper place.

After these preliminary remarks, the import of which will become more apparent further on, we may again return to our subject.

In the regular course of business a continuous circulation of funds takes place between the two divisions noted. There are three channels through which money may flow from the volume of passive to that of active funds and three in which the flow is in the opposite direction. This circulation can be illustrated by the diagram, Fig. 1, in which the sum total of all funds is represented in an enclosure divided into two compartments containing the respective divisions of these funds by a partition with openings through which the various currents are passing to and fro.

One current from the passive to the active division results from "Loans," that is to say, from the process of lending. From this current must obviously be excluded all loans to those who but lend again, such intermediation having no effect on the actual volume of loans. A second current results from a direct restoration to activity of funds that had been in the passive state, for instance, when a portion or all of the interest received on loans or of the principal of paid debts, instead of being again used for loans, as assumed in our premises, is used for living expenditures or is invested in industrial or commercial pursuits. This is one of the departures to which we have above adverted. There is still a third current in the same direction, though comparatively insignificant, consisting of commissions paid to agents and trust companies for attending to loans and collecting debts and interest, as well as of taxes, where the busi-

ness of lending is burdened with taxation. These cover payments for services rendered and other items constituting "Cost," which term is here confined, of course, to the expense of conducting the business of lending.

To facilitate our investigation, these currents may be denominated by the letters: L (Loans), E (Expenditures), and C (Cost).

The first current flowing from the active to the passive division consists of funds applied to the payment of "Debts," related to which is the second current consisting of the payment of interest. In this latter current is of course included the interest paid on bonds, but not dividends paid on stocks, inasmuch as we are here considering only loan transactions. We have next to consider another departure from our assumed premises, a departure which forms a third current from the active to the passive state. We had assumed that funds employed industrially or commercially are in the active state. But as such funds are frequently diverted into loans, which we have assumed as flowing from the passive division, it follows that such funds must previously have been transferred to that division, a transfer which is to be recognized as the third current. Thus, for example, workingmen take part of their earnings to savings banks where the funds are loaned out, merchants or manufaturers lend out some of their profits by investment in bonds, or stockholders apply some of their dividends to loan on mortgage. Such lending of funds previously in circulation is accordingly a dual process, namely, a transfer from the active to the passive division through "Savings," and another passage in the opposite direction through "Loans." This double passage must be recognized for reasons that will appear later.

Reverting to the subject of the second current we should consider that the market rate of interest paid on loans is determined by three economic factors and should accordingly be divided into three parts, namely:

First, "Cost," comprising the current expenses of lending, such as commissions paid to agents attending to the business of lending as well as other items of cost. This part is equal to the previously discussed current C.

Second, the insurance against "Risk" which inevitably attends the business of lending.

Third, the net profit on money loans or "Interest Proper."

Let us denominate these currents by the letters P (Payments of Debts), C+R+I (the three parts of gross interest: Cost, Risk and Interest Proper) and S (Savings devoted to Lending).

If we now further denote by V the volume of active funds and by dV the change or differential of this volume within a given period, and if we disregard, for the time being, any possible changes of the total volume of funds, such as may result from coinage, the issue or withdrawal of currency, the expansion or contraction of bank deposits, etc., it follows that the change of volume, dV, within a given period is determined by the volumes flowing through the several channels within the same period, hence:

1. $dV=L+E+C-P-(C+R+I)-S=L+E-P-R-I-S.$

This formula will be used later for further deductions.

In studying the cycle of prosperity and depression there is another item demanding consideration. It is well known that periods of business depression are invariably preceded by more or less pronounced financial crises manifesting themselves by an increased number of business failures. This would indicate that the indebtedness of the industrial to the financial world exceeds the ability of borrowers to pay their debts. To be sure, in this connection we must not leave out of sight that we are here concerned only with money loans and the indebtedness thereby accruing.

The volume of this indebtedness is increased by that current of funds from the passive to the active division which is dominated by the letter L in the preceding deduction and is reduced by the reverse current P. There is, however, another factor reducing the volume of debts, namely, the depreciation of their value due to the insolvency of debtors. A vast amount of lenders' assets is annually ruled off to loss on this account. But in the aggregate this loss is balanced by that portion of the gross interest known in economics as insurance against risk, which has been discussed above and designated by the letter R. It follows then that these three currents are the factors which bring about an increase or a decrease of the volume of indebtedness, according as the opposing currents predominate in the one or in the other direction. If now the letter D is used to designate the volume of indebtedness and dD the change or differential of this volume during a given period, it is evident that

2. $dD=L-P-R.$

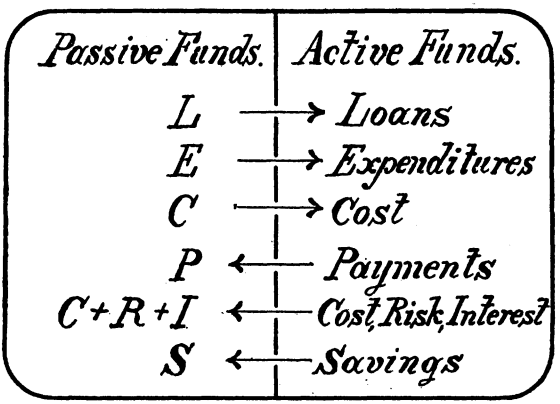
The reason for carefully defining the term "Debt" as well as

for considering the lending of money previously in active circulation to constitute a dual process will now be understood, for only on these premises will the currents embraced in this formula be identical with those of equal denomination in equation 1, and both equations may accordingly be combined and solved for I, the resulting equation being:

3. I=E—S+dD—dV.

This equation will reveal some very instructive information if subjected to careful analysis. As it refers to given periods, it is true for short as well as for long ones. The terms E and S will increase approximately in proportion to the time embraced in the period, while the differential terms dD and dV will merely fluctuate. At

Fig. 1.



times they will be positive, at times negative; in short, they are not cumulative with the increase of time. If long periods are considered, the last two terms will for this reason be insignificant in relation to the others and become negligible. The equation will then assume the form:

4. I=E—S.

It will be remembered that I is the volume of the net incomes from money loans, E is the volume of funds transferred as "Expenditures" from the passive state into the field of activity by being laid out in living expenses or being put out into business ventures, while S is the volume of funds taken out of the field of activity and

put as "Savings" into condition to be loaned. The current S being a current of processes which are the reverse of those making up the current E, the quantity E—S may properly be termed "Lenders' Net Expenditures." With this in view, formula 4 conveys the information that the aggregate of the lenders' net incomes depends upon and is equal to their "Net Expenditures" when long periods of time are considered. The aggregate incomes from loans, then, are increased by more liberal "Expenditures" of those incomes and are diminished by the "Savings" of industrial earnings and their investment in loans.

This may appear to be a startling proposition. But its truth is unassailable and may be better understood when it is considered that the concept "Lender" is here used not so much in a personal as in an economic or functional sense. The function of lending is that of facilitating the distribution of the available funds into those commercial or industrial channels in which they can perform the most efficient service. It were therefore an error to apply the above conclusion to the individual instead of to the function. To the "Lender," in this exclusive sense, all investments in industrial enterprises are as much "Expenditures" as are outlays for personal necessaries or luxuries. The proposition simply indicates that the field of lending is strictly limited and that accordingly the volume of loans cannot be indefinitely expanded. This is indeed confirmed by the fact that numerous representative financiers have of late gone beyond their normal province of "Lending" and have acquired large industrial interests. Their field in the financial world being limited, they find room for expanding their influence in the acquisition and in the creation of giant enterprises, especially those to which of late the term "Trusts" has been applied.

That same conclusion, namely, that the aggregate net incomes from loans are increased by the "Expenditures" of those incomes and are diminished by the factor denominated "Savings," applies of course to the community as a whole. To the individual lender it is inapplicable, inasmuch as an individual lender cannot increase his personal income by spending his resources more freely while other lenders are restricting their outlays and reinvesting the major portion of their incomes in loans.

So far we have dealt only with long periods of time, on basis of which alone our formula 4 is wholly valid. Within shorter periods

the quantities dD and dV of formula 3 cannot be neglected and can be shown to have a definite significance in the cycle of industrial conditions.

In this respect four periods can be distinguished, according as the predominating features are, in rotation, at first a positive dD, followed by a negative dV, then by a negative dD and finally by a positive dV, which means, respectively, an increasing volume of indebtedness, a decreasing volume of active funds, a decreasing volume of indebtedness and an increasing volume of active funds. Of course, these periods are by no means sharply defined. They gradually pass one into the other, not without considerable overlapping. Only when specific causes intervene, such, for instance, as wars or other far-reaching influences, may a comparatively rapid passage from one to the other be observed.

It is perhaps worth noting that in the first two periods the quantity I exceeds the quantity E—S, while in the last two this relation is reversed. This agrees with the law expressed by formula 4, according to which any excess of I over E—S during one period must be balanced by an equal deficiency during another period.

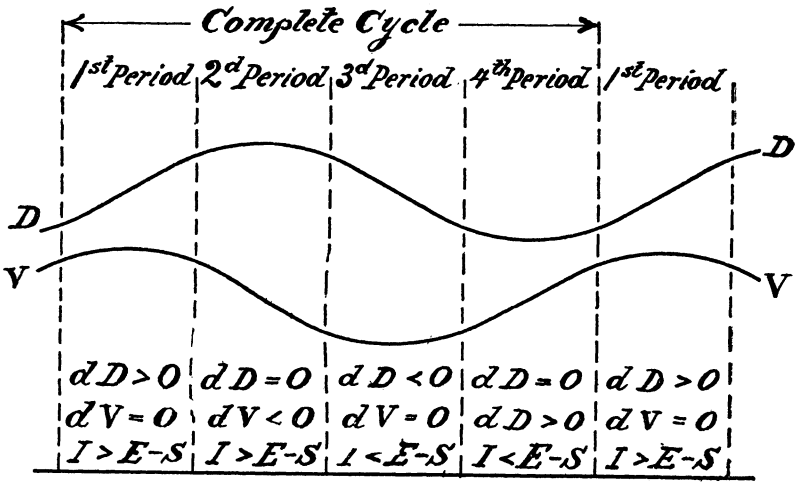
The diagram Fig. 2 graphically represents the fluctuations, in the course of the cycle, of the two factors, D, the volume of indebtedness and V, the funds in active circulation. This diagram will be found to fully illustrate the following analysis of the progress of the cycle.

The first period is that in which dD is positive, *i. e.*, in which the volume of indebtedness is increasing, while dV is practically nil, *i. e.*, the circulating volume is practically stationary. This is the prosperous period in which commerce flourishes, business increases and new enterprises are established. Expanding business absorbs all available passive financial resources. Those who have funds for lending have no difficulty in making loans on satisfactory terms. Interest rises to the highest rate. Because of the ease with which acceptable borrowers can be found, the bulk of funds is kept in active circulation, for every accretion to the passive volume is promptly returned to circulation. There are comparatively few business failures, hence only a small fraction of the gross interest need be devoted to cover losses from bad debts, the greater portion of interest being net profit.

Trust companies and other financial institutions must reinvest

the incomes from loans in their care, they having practically no choice in the matter. Individual lenders also, spending only a part of their incomes, naturally desire to invest the remainder. It is thus apparent that the "Net Expenditures" of lenders are less than their net incomes, in other words, the quantity E—S is less than the quantity I, hence the flow of funds from the active to the passive division preponderates, at least as regards the channels E, S and I. The primary effect is an accumulation of funds in the passive state, but they are readily restored to circulation by an excess of the current L over P. This, however, is attended by a constant increase of

Fig. 2.



the volume of indebtedness and with it by an increasing obligation to pay interest, which still further hastens the flow of funds from the active to the passive division through the channel I. So long as these funds are again released by borrowing, the total indebtedness increases with accelerating rapidity and, in the nature of things, must ultimately exceed the ability of borrowers to furnish adequate security. The borrowing which has heretofore restored to circulation the funds accruing to lenders is then reduced and we enter upon the second stage of the cycle in which dV appears as a negative quantity, in other words, in which the active volume V is decreasing, because of the accumulations in the passive state. "Cash" in

business becomes scarce, the payment of accounts becomes tardy, long credits are asked in business transactions. The steady diminution of the quantity of money in active circulation invites hoarding, which makes matters worse. But the flow of funds due to the excess of I over E—S continues to reduce the volume of active funds. Finally the increasing scarcity of money in circulation renders it impossible for many of the debtors to meet their obligations and the number of business failures increases, often amounting to a crisis. Business, that is to say, the exchange of products and services, becomes stagnant for the same reason. This marks the advent of the third period in which the term dD of formula 3 becomes negative, indicating a diminution of the volume of indebtedness. Those business men who can do so pay off at least part of their debts, since a smaller working capital suffices for the reduced volume of business, but the sum total of debts is also reduced by reason of the numerous business failures, and since a greater portion of the gross interest must now be devoted to cover losses, the remainder, constituting interest proper, is materially reduced, even though the rate of gross interest is not changed at once. This is the typical period of business depression. The law according to which the net income of lenders cannot, in the long run, exceed their net expenditures asserts itself. By the force of circumstances over which the lenders have no control, their net incomes fall below their net expenditures in the measure in which they formerly exceeded the latter. Money is now freely offered for loans at a low rate of interest, provided complete security is given, but the scarcity of funds in circulation, combined with the inability of business men already indebted to the limit of their borrowing power to furnish the security demanded for further loans, causes such a stagnation in business that even those not already overburdened with debts cannot afford to borrow.

Finally the third period is succeeded by the fourth in which dV is positive and which ends in gradual recovery. The net income of lenders is still low, principally for two reasons. In the first place, most of the remaining debts have been renewed at a lower rate of interest and, in the second place, the volume of indebtedness is at an ebb, while the chances for investing the money held by lenders are comparatively few. The low volume of indebtedness during this period is clearly shown in diagram Fig. 2. By an excess of the "Lenders' Expenditures" (as previously defined) over their incomes,

the passive funds are finally restored to circulation. Thus the fourth period merges into the first of the next cycle and the play is repeated.

In reviewing the cycle as here outlined, it will be noted that each period presents conditions which inevitably bring about the results that characterize the succeeding period. The power of money to command interest exceeding "Cost" plus insurance against "Risk," or C+R, creates a tendency of funds to concentrate in the hands of the lenders. In prosperous times these funds are readily restored to circulation by lending, which, however, correspondingly increases the volume of "Debts." When the increasing indebtedness begins to exhaust the ability of borrowers to furnish security, the accretions to the volume of passive funds are no longer released and the consequent reduction of circulating funds deprives borrowers of the means of meeting their financial obligations. This leads, largely through business failures, to a reduction of collectable debts and incidentally to a reduction of the rate of actual or net interest. The lenders' income is reduced and eventually the accumulated passive funds find their way into circulation through their owners preferring to expend them in industrial or commercial ventures rather than hold them idle indefinitely. In the resulting fluctuation of the volume of active funds the periodicity of business depressions finds a logical explanation. Cause and effect follow each other in their natural sequence, completing a continuous, ever recurrent cycle of the four periods described. It is hardly possible to present a better proof for the correctness of this explanation than the complete agreement of the hypothesis with the facts.

In practice the play of economic forces, as above traced out, is perhaps slightly modified by the constant fluctuation of the total volume of currency and bank deposits, by changes and improvements of industrial and commercial methods, by the practice of hoarding and by other factors, but these influences are sporadic and do not affect the ultimate conclusion, namely, that the capacity of our present system of currency and banking is inadequate to mediate the enormous volume of exchanges required and entailed by the modern system of production.

A remedy can be looked for only in improved methods of mediating exchanges. As one of the possible remedies the writer would suggest that business men establish a commercial clearing house through which their mutual accounts can be cleared practically with-

out the use of current funds. Such a system, if surrounded by proper safeguards, would virtually permit the payment of accounts payable with accounts receivable. In the measure in which business men would thus make themselves independent of the money market, exchanges would be facilitated and stagnation prevented. Indeed, a universal application of such a system may be the means of ultimately eliminating business depressions and of establishing perpetual prosperity.